



## Fishing Culture in Bantayan Island, Cebu, Philippines: Basis for the *Bobo* Model of Constructivist Teaching

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### Abstract

The culture of fishing is one of the many facets that provide sustainable foods on the table—unveiling it on the island of Bantayan and describing it in terms of the fishermen’s narratives on their beliefs, rituals and practices, challenges, success stories, and fishing experiences. These descriptions serve as the basis for the creation of a culture-based constructivist model of teaching. This study utilized a single-case study design on the fishing culture of the island. Unstructured interview questions were used among the selected key informants. Their verbatim accounts were treated using thematic analysis. The use of modern fishing equipment challenged the traditional fishing beliefs and rituals of the fishermen in Bantayan. Still, the use of bobo traps remained essential in the fishermen’s life on the island. Overcoming challenges and the use of interventions were barometers to success in fishing. Fishing does not only benefit the fishermen’s daily needs, but it provides a significant benefit to the education of their children. The century’s practice of “Bobo” in fishing encapsulates a fertile ground for innovation to create a culture-based constructivist teaching model. This model increases the cultural awareness of educators to use culture as a tool in contextualizing the teaching and learning process. The need for further orientation and study on the efficacy of this model is recommended.

**Keywords:** *Culture of fishing, rituals, beliefs, Bobo traps, Bobo Model of Constructivist Teaching*

### 1. Introduction

The Philippine archipelago consists of 7,107 islands of grandeur. The country's geographic composition leads to its people's diverse cultures. The country's division develops the people’s way of living practices to attain survival as the primary goal of humanity’s existence. People obtain their means of subsistence from their environment’s available resources (Rogers, 1993). The country is rich in water sources, and fishing has

become one of the primary sources of livelihood. The country is considered to have the world's highest marine biodiversity, corresponding to huge fish production and other marine resources.

From a global perspective, the countries of Japan and China are considered the biggest fish consumers in the world. Japan's fishing industry relies on marine life as the country's geographical setting faces the Pacific Ocean. On the other hand, the geographical structure of China may be disadvantageous in obtaining seafood, but culturing freshwater fish becomes their alternative for their fishing industry. The same goes for the Philippines. The country's geographical features affect the means and techniques of fishing livelihood of Filipino fishermen.

It is identified that fishing is one of the oldest cultures in the world (Scott, 2016). Culture comprises the beliefs, rituals, and practices of a particular group. In the Philippines, where some of the traditional cultures are considered a heritage, the fishing culture still exists despite its commercialization and advanced use of technology. Filipino fishermen exercise particular beliefs, practices, and rituals that aid them in catching bountiful fish. Undeniably, the archipelagic setting of the Philippines is an ideal fishing ground. Its maritime location was identified as one of the country's highest abundances of fish supply (Alcala, 1988). Central Visayas alone contributes 74% of the country's fish supply (White et al., 2004). Kirit et al. (2019) validated this high production of fish in the region by identifying the Visayan Sea, the Cebu-Bohol Sea, the Tañon Strait, the Camotes Sea, and the Danajon Double Barrier Reef as five principal fishing grounds that surround the province of Cebu. It was found that a total of 2,129,665 metric tons of offloaded fish came from both commercial and municipal fishing in Northern Cebu (Kirit et al., 2019).

This profile supports the geographic view of Bantayan Island as one of the contributors to fish supplies in the northern part of the province. Not only known for its white beaches and amazing features, but this island is also considered concrete evidence that fishing culture in the country has endured and created significant strides in the people's livelihood in the island's fishing communities. Fishing in this area becomes a significant source of income for the inhabitants. With this abundance of fish resources in the Philippines, Toni Parras (2001) recommended measures to stakeholders in Central Visayas to make the supply of fish in the region sustainable.

Sustainability depends on how fishing culture is valued and enhanced in the region, which can be promoted if the fishermen's role is recognized in the community through a concerted effort by the people in the academia. By utilizing the cultural practices of fishing in the instructional process. It was found that Culturally Responsive Teaching (CRT) improves students' engagement and achievement (Caingcoy et al., 2022). Students learn when familiar lessons are based on their cultural contexts. However, there is a gap in the existing literature to support this argument when the instructional process is anchored on Eurocentric and Western perspectives despite the need to present this in a culturally oriented approach. One of its possible interventions to address the gap is to recognize the fishing cultural practices of Bantayan as its core to create a pragmatic and constructivist approach to instruction.

Culturally based fishing and the newly coined Bobo Model of Constructivist Teaching (BMCT) are anchored on two popular theories of Lev Vygotsky and Jerome Bruner, such as the Socio-cultural Theory and the Theory of Scaffolding. In Vygotsky's

Socio-cultural Theory, the dimension of consciousness of an individual is crucial in time and fact. This consciousness, in time and fact, includes the knowledge and understanding, interests, attitudes, perspectives, worldviews, and values that shape the cultural milieu of an individual [as in the case of the fisherman's fishing practices or the learners' learning process to make meanings], where the teacher has the responsibility to take into account. For instance, the fisherman's consciousness regarding weather and climate conditions affects their practices on when to begin and end the fishing expedition, including their bobo teaching practices to increase more catch. In terms of the BMCT, this theory is contingent on the learning process by acquiring new pedagogies and knowledge of the world and culture surrounding the individual (Scott & Palincsar, 2013) because culture is a catalyst for achievement (Tiyagi & Verma, 2022). *Vis-à-vis*, the utilization of the fishing culture in the BMCT stirs the learners' consciousness to learn better using the culture of the environment where they live, which ultimately can improve their academic performance.

On the other hand, the Scaffolding Theory of Lev Vygotsky and Jerome Bruner shed light on designing the Bobo Model of Constructivist Teaching (BMCT). In this theory, the teacher shows a sample scaffold based on the *bobo* fishing practices. The learners will make scaffolds of their own using the BMCT context. Scaffolds are necessary evidence of the learners' performance in achieving learning outcomes, exemplified in Table 1. Bridging these two aforementioned theories together will open a horizon of possibilities to culture-based instruction *vis-à-vis* the fishing cultural practices of Bantayan Island, which is pragmatist and constructivist. In John Dewey's pragmatist approach to instruction, teaching pedagogies and instructional materials are based on local and practical contexts. The principle of learning by doing is emphasized in the instructional episodes of *pagpaon*, *pagbas-ong*, *paghaw-as*, *paghawwa*, and *paghaligya* coined as the essential steps of the BMCT. Hence, the instructional process of teaching differs from one location to another. It emphasizes practical examples that are relatable to the learners. On the other hand, Jerome Bruner's constructivism allows learners to give meanings based on their own experiences. This is where they keep in touch with their consciousness [eidetic insights] or reflections on realities surrounding them in the fishing village and the world around them.

The cultural process of fishing using the Bobo trap is a signifier in BMCT's crafting as a pragmatic signification of a new teaching pedagogy that is localized and contextualized in the aspect of the fishing culture of Bantayan. The nuanced structure of the Five E's of Constructivism as the primary lens in analyzing the five steps of the BMCT is contingent on the cultural process of actual fishing on the island. Having BMCT in the Philippine setting contributes to addressing the gaps in the existing literature on CRT. *Vis-à-vis*, the purging of BMCT is an extension of knowledge in the researchers' previous works on CRT that promote Cebuano cultural identity in the country (Cabasag et al., 2021; Inocian & Luzano, 2022; Cuyno et al., 2019; Inocian et al., 2019; Balaza, et al., 2021; Saguin et al., 2020; Inocian et al., 2020; Pacaña et al., 2019; Inocian et al., 2020; Tejada et al. 2018; & Inocian et al., 2019). With the varying results in the study CRT, Morrison et al. (2022) recommend continued research on CRT that exemplifies its best practices in teacher education. Hence, this study is pursued.

The result of this study is significant to the students as this provides knowledge of the cultural fishing practices on Bantayan Island. This goal is supported by Jacobs &

Haberlin (2022), who mentioned that CRT could promote cultural awareness among learners. The study's results enlighten their minds on the relevance of these beliefs, practices, and rituals on the local fishermen's livelihood. This also upholds the cultural identity of the Filipinos since millennials tend to disregard their own local fishing identity with the lure of a higher urbanite lifestyle. For educators, this study may provide new teaching pedagogies derived from the fishing culture that can be applied in making lesson exemplars and improving the instructional process, leaving the shackle of traditional and Western-oriented teaching.

### **Review of Related Literature**

Unveiling the fishing culture is not construed as an intrusion of the people's privacy in the village. The village fishing community needs to be recognized regarding the fishermen's capabilities and latent cultural practices that necessitate preservation and promotion. Innovative instructional design is one of its intents to promotion, painting a plethora of cultural tapestry unique to Bantayan's cultural context.

### **Culture in Context**

Culture does not create people, but it is the people who create culture (Adichie, 2013). Culture trumps everything, including people's psychology and biology (Grodnitsky, 2017). It is defined as the entire way of life followed by people, and everything learned and shared by people in society (Griswold, 2012). The importance of culture in education cannot be exaggerated (Tiyagi & Verma, 2022). From these perspectives, people are the essential element in making culture. Culture is not inherited; it is socially learned and passed down from generation to generation (Jervis, 2006). Genetically, humans are predisposed to learn cultural skills and knowledge. This means that the fishing culture of the people of Bantayan is socially imbibed and transmitted to the next generation of fisher folks to make this sustainable. In academia, there is now a changing consciousness of culturally-responsive teachers (Jacobs & Haberlin, 2022). This finding requires an urgent need for more research in culture-based teaching, which is constructivist and contextualized in the learners' cultural milieu. Hence, Jacobs & Haberlin (2022) call for a broader conceptualization of culture. Learning how to link content with the cultural background of students is the most successful teaching strategy that addresses cultural diversity (Tiyagi & Verma, 2022).

### **Fishing Culture**

Unique cultures exist in every society; some cultures are shared and learned, particularly in far-flung areas. Coastal areas like Bantayan are one of the most prominent fishing villages in the province of Cebu. Like any other culture, the fishing culture in Bantayan Island also shares common beliefs, rituals, and practices. Culture is prevalently associated with religion. Before the arrival of the Spanish missionaries, primitive Filipinos are considered animists. Animism is the belief in worshipping the spirit of nature as embodied in the form of deities (Inocian, 2013). The philosophy of animism is embedded in man's relationship with nature and the ancestral spirits that inhabit it (Lawless, 2017). The traditional culture of fishing greatly influenced the animistic culture of early Filipinos. This animistic culture continues to exist even in fishing, particularly in their fishing beliefs, rituals, and practices.

### **Fishing Beliefs**

Belief is a feeling of conviction and certainty towards something, the core of the actions or introspection of an individual (Bennett, 2009). The nature of fishing is very unforeseeable and stimulates various beliefs in fishing communities (Rogers, 1993). Fishermen are superstitious, and they believe in such a thing as *dimatas* (fishing ritual) that can aid them in catching various species of fish (Douglas, 2017).

### **Fishing Rituals**

Rituals are the manifestation of beliefs; they are ceremonial in nature and performed in a customary way. The ritual involves action with intentional symbolic significance undertaken for a specific cultural purpose (Bell, 1992). It is usually associated with social values and beliefs. Activities such as offering sacrifices, worshipping, and devotions are common among fishermen, who believe that blessings are bound to be given to them (Cabili & Cuevas, 2016). Ritual is a perfect opportunity to learn one's culture. It is relevant to people since it helps reinforce a sense of identity.

### **Fishing Practices**

Practices are the application of an idea, belief, or method that the people in their fishing livelihood have widely used. Fishing practices play a vital role in people's daily fishing activities. The two common methods used in catching fish are crude and modern techniques (Olaniyan, 2015). Crude methods are the traditional ways integrated into fishing during the old days, while modern techniques are the methods that fishermen use now, including nets and motored equipment. Even in the modern days, the old or traditional way of catching fish continues to exist with the use of low-tech equipment (Alimen et al., 2013). However, with the integration of technology, most fishing communities modify and improvise the traditional methods of fishing that improve their equipment and give more convenience to their fishing activity (Obed & Vuki, 2014).

### **The Fishermen's Challenges and Interventions**

Fishermen encounter various issues and problems in the environmental, socioeconomic, and administrative aspects that threaten and challenge their way of living (Morgan, 2015). Fishing is very vulnerable to various threats that can be encountered, like changes in climate, marine ecosystems, and precipitation (Worldfish Center, 2007). People who engage in fishing are commonly situated in areas at risk of extreme phenomena, specifically typhoons, flooding, and tsunamis (Badjeck et al., 2013). Aside from the risks to people's lives, these cataclysms significantly affect their livelihoods. This impact on their livelihood also affects the economy because of decreased production and employment (Badjeck et al., 2013). Challenges encountered in the people's fishing activity do not end on the environmental issue but also the socioeconomic side. Some socioeconomic issues in fishing are the increasing number of populations in coastal areas and the low status of fishermen in terms of education and social aspects. The population growth of the inhabitants in coastal areas and the activities they practice degrades the marine life habitat (Creel, 2003).

### **The Fishermen's Successes**

Fishing has existed as a means of obtaining food and providing a livelihood for the people. Subsequently, fishing becomes the primary factor in the development of rural areas (Rentschler, 2014), since it provides employment, and the generation of income is also considered. Fishing is better if fishermen can catch lots of fish to be sold to earn income since most of them are after for profit to provide their daily needs. The increase in productivity also depends on the fishermen's strategies and methods of fishing and on how they would be able to apply these for them to attain success.

### **The Daily Life of Fishermen**

Fishing is not just a mere process, it involves a repetitive series of events describing fishermen's life. The daily life of fishermen revolves around the various activities they complete at the end of the day. Time is a significant factor affecting the initial part of the fishing activity. Fishermen usually initiate fishing at dawn to get the best catch (Srinivasan, 2011). Catching fish is not just a simple recreation; it is a livelihood where their lives in the middle of the ocean are at stake. During fishing, they face challenges and interventions that complicate their fish gathering, but apart from these is the success of catching abundant fish. At the end of their fishing trip, their catch would become a source of income for family consumption. Like other people, fishermen value the time they spend with their families after a long day of fishing (Oakes, 2011). These activities are repeated in the fishermen's everyday life.

### **Culturally Responsive Teaching versus Constructivist Teaching**

CRT is crucial because when teachers incorporate students' interests in the learning process and into the curriculum, they make connections and make better choices (Tanase, 2022). In action research conducted by Szu-Yin Chu (2022), one of the four themes that emerged in her study on CRT is cultural sensitivity. The BMCT is anchored on cultural sensitivity in the fishing culture of Bantayan Island using the *bobo* trap. In CRT, learners can develop empathy and understanding (Jacobs & Haberlin, 2022). With the CRT as a new frame of reference, it is with high hopes that using BMCT in the Philippine context may enhance empathy and broader understanding in the learning process. At the outset, CRT is a student-centered approach where students' perceptions, past experiences, and cultural ideas are considered in a collaborative, flexible, and inclusive manner of teaching (Tyagi & Verma, 2022).

As a way of life, fishing in Bantayan Island is not only construed as a livelihood to be preserved but as a culture-based teaching pedagogy, i.e., to be promoted in the context of education. Hence, villagers can forget the *bobo* trap for any reason by detaching themselves from their fishing community because of a change of work. However, this trap would linger in their memory, and the rest of their generation may forget to remember the *bobo* as a fishing trap, but as a culture-based teaching model, which their generations have access to use in teaching. The aforementioned literature provides the intricacies—foundations, and principles of BMCT that teacher education scholars worldwide will benefit from.

### **Purposes of Research**

This study unveiled the fishing culture of Bantayan Island and its implications for instructional processes. This described the fishing culture in terms of beliefs, rituals, and practices; the fishermen's narratives of their challenges and stories of success in their fishing experiences; and designed new teaching pedagogies derived from the fishing culture that can be used in the instructional process.

## **2. Methods and Materials**

### **2.1. Research Design**

The study used a qualitative descriptive method depicting a single case study design on the island of Bantayan fishing culture. This single case study investigates a contemporary phenomenon within its real-life context (Zainal, 2007) on the fishing beliefs, practices, and rituals of fishermen as primary research participants. Their fishing beliefs, traditions, and practices served as the target quintain or selection in the study. These were analyzed and extrapolated to provide the basis for a new paradigm of an innovative instructional context known as the BMCT.

### **2.2. Research Key Informants**

The research participants of the study were a group of experienced fishermen on the island of Bantayan regardless of their marital status since they were the ones known to answer the interview questions that would suffice the needed information in the study. At least ten experienced local fishermen were selected through snowball sampling.

### **2.3. Data Analysis**

Obtained data were analyzed with the use of thematic data analysis. Thematic data analysis generates common themes from the interview data (Brawn & Clarke, 2013). Clustering the data according to the key informants' familiar narratives was also analyzed and presented in vignettes.

### **2.4. Research Instrument**

For primary data, the study used an interview guide using unstructured questions for house-to-house interviews. Photographs and recordings were valuable sources of secondary data. Secondary data, like the plethora of citations, were used to provide concrete evidence on the fishing culture of Bantayan Island.

### **2.5. Research Locale**

The study was conducted in one of the fishing villages in the northern part of Cebu province, the island of Bantayan. This island is not just known for its crystal-clear blue waters and white sand beaches; it also has a huge fishing industry which the study finds relevant.

### **2.6. Ethical Considerations**

Letters of permission were presented to the barangay chairman of the area for the key informants' interview approval. The key informants affixed their signatures on the

informed consent that confirmed their willingness and cooperation in providing helpful information about the study. Tokens were presented to the interviewees as recognition for their valuable participation.

### **2.7. Inclusion and Exclusion Criteria**

The key informants were selected based on the following criteria: ten or more years of experience in fishing on the island of Bantayan; at least fifty years old and above. Young fishermen in Bantayan Island whose fishing experience was below ten years and below fifty years old were excluded as key informants in the study.

## **3. Results and Discussions**

### **The fishing culture of Bantayan**

#### **Theme 1: Belief and adherence to fishing traditions**

It is revealed that the native fishermen in Bantayan Island have applied the golden principle in relation to their fishing practices. KI-1 says,

*“Kinabanglan jud namong likayan ang pagpanghilabot sa mga butang sa laing mananagat parehas anang ilang bobo kay basin mabarangan kami ba, mabawsan mi.” (We need to avoid taking the logistics for fishing like the fish trap for us not to be cursed or subjected to sorcery)*

“Barang” or sorcery is a widespread belief throughout the Philippines. This is performed by “mambabarang,” or sorcerer who uses powerful magic to harm the victim or victims (DiaryNiBeks, 2011). Considering that they fear being subjected to sorcery, The Bantayan fisherman has shown that traditional beliefs still adhere to the island. This belief of reciprocity has also demonstrated how native fishermen value respect for other fishermen's equipment.

#### **Theme 2: The vanishing belief due to the practical means of fishing**

The existence of fishing beliefs cannot be dismissed. However, the applicability of these beliefs may depend on one's outlook in life. Others tend to be more practical than superstitious in dealing with life. KI-2 says,

*“Normal ra man ang akong pagpangisda. Wala ko anang mga butanga apan naa koy nahibaw an pero wala gyud ko na gigamit sa akong pagpangisda.” (I engage in regular fishing. I don't have these practices, even if I know, but I don't use them in my fishing.)*

Life is about learning how to survive, which can be attained through practicality (Aghazadeh, 1994). The critical informant emphasizes his usefulness towards fishing instead of being hooked to the indigenous beliefs. Though beliefs are an essential element of culture, some consider them ineffective with no factual basis; instead, they become more practical to meet both ends meet.

#### **Theme 3: The ritual of animal sacrifices and offerings**

Presently, things such as deities and fairies are still believed by some of the island fishermen in different parts of the Philippines (Cabili & Cuevas, 2016). People in the 21<sup>st</sup> century who dwell along the coastline and mountainous areas believe these supernatural beings are still being preserved, highly present, and venerated. Rituals and other belief practices associated with offerings and ceremonies are considered to bring good luck to their fishing routines. Traditions among these people are still revered, just



like in some fishermen on the island of Bantayan. They believed offerings before fishing played a vital role in helping them catch various fish. KI-1 says,

*"Ako isip usa ka mangingisda nituo gayud ako niana. Usabay kanang mga balad- balad kay importante kaayo para kami makakuba ug abundang isda. Usabay man gud, nay mga panabon na wala gayud kami makuba maong kanang balad mao ang among madangpan." (Before I went on fishing, I believed on fishing rituals. Sometimes, ritual offerings are very important to in order to yield abundant catch. Sometimes, there are occasions, there is no catch, that is why we resort to a ritual offering.)*

The role of animal sacrifice and offerings is bound with prayer in the attempt of every individual to procure prosperity in their fishing (Mounce, 2017). KI-1 highlights that animal sacrifice or offering is significant for them to catch abundant fish. Believing in such a thing is very important among the fishermen. Though not all practice this, few still believe in this superstition. Superstitions throughout the years affect the fishermen's daily lives, and few may feel disconnected if they have not performed a meaningful ceremony such as offerings and sacrificial activity (Mounce, 2017). This implies that the life of these few fishermen is enshrined with animism that strengthens the bond between humans and nature.

#### **Theme 4: The Influence of Religious Faith on Fishing Ritual**

Rituals, offerings, and worship of deities have been a part of Filipino culture. It cannot be denied that these things are part of the daily life of the early Filipinos, and even the rest adheres to this up to now. These constitute the culture that needs to be preserved and respected. Since the time history can recall, the Spaniards' massive influence on most Filipino culture, especially on their religion, remains visible (Balinski, 2015). Religious faith affects the way of life of every individual. By practice, fishing as a livelihood has been very much influenced by deep religiosity. Most Filipinos tend to believe and perceive things by the teachings of God in the Bible. Because of religious faith, some superstitious ideas have slowly been eradicated. On the island of Bantayan, rituals related to fishing are mostly gone. Fishermen tend to believe that performing such a thing neither helps nor aids them in catching fish and other marine species. Some say offerings, good luck charms, and animal sacrifices are evil. It is against the teaching of the Bible. KI-3 laments,

*"Ako wala jud ko ana kay ang kanang mga buhat na ingun niana kay supak kana sa Bibliya, usa ka na ka demonyohanong buhat. Matud pa sa Mateo 12:7 ang Giinoo mingun na Siya ra ang makalumas kanato." (I don't have these practices because these acts are works of the devil and these are against the teachings of the Bible. According to Matthew 12:7 God said that He is the Savior to all of us.)*

Satan exists to lure people away from God. A spiritual being believes that superstition is one of their tricks to influence people's minds and to follow these malicious lies. In Matthew 12:7, people should only believe in God because He is the only one that can save people from distress and danger. All He ever needs is for His people to have faith in Him and trust Him.

#### **Theme 5: Practices on the Bobo Trap Used in Fishing**

The use of varied equipment in fishing corresponds to the different methods or ways of catching fish. The relation of the two factors affects the result or outcome of

the fisher folks' fishing livelihood in a particular area. The fishermen of Bantayan Island are living evidence of the varied methods and equipment utilized in daily fishing. While others have already adopted the effect of modern technology in fishing, the rest still stick with the conventional ways of catching fish. KI-1 & 2 say,

*“Sauna, kanang mga gamit sa pagpangisda karun wala pa gyud na, kasagaran namong gamiton kay kanang “bobo,” kanang nay screen ba. Ilabay sa dagat arun musilong ang mga isda ug makuha na mo ug dali.” (In the past, these fishing logistics now did not exist, most of us we used the bobo fish trap, the one that has the screen. We threw it to the sea for the school of fish to get in and be trapped right away.)*

Fishermen in Bantayan Island commonly use the equipment called “Bobo” in their fishing prowess. “Bobo” or fish pots are fishing device that is quadrangular in shape and made up of bamboo for its sides and nets as traps. Along with fish pots are raw egg baits used by fishermen. These are placed onto the seabed, and fishermen leave them to stay for a day until they return and haul their catch the next day. At the time, several fish entered the “Bobo” and were trapped inside; it was difficult for the fish to escape. Fish pots, as conventional equipment, are efficient and functional for the fisherfolks to increase their yield. This “Bobo” method relates to the primary fishing equipment of the fishermen. On the other hand, modern fishermen have integrated this development into their mundane fishing activities with the fast evolution of technology. As evidenced by what KI-3 says,

*“Sagol na sa bag-o ug kinarang mga gamit ug pamaagi sa pagpanagat ang akong gigamit run. Naggamit ko ug bobo na gigamit pa namo sauna ug ang motor banca nga mao na say kasagaran gigamit karon.” (I mixed the new and the old fishing logistics in my fishing now. I use the bobo trap that we used to have in the past and the motorized sailboats, which are often used now.)*

As modern equipment, motorized banca [sailboats] are used in fishing, more popular than the “Bobo.” Aside from giving fishermen convenience, these make their goal of catching abundant fish more possible. The majority of the fishermen have adopted this invention in their daily fishing. However, despite the integration of this new invention, some still adhere to the traditional equipment [Bobo], which is widely used in the area.

### **Theme 6: Bad Weather and other Disasters Challenge Fishing Activities**

Fishing, a livelihood on which much of a country's population usually depends, is vulnerable to environmental threats like storms, sea-level rise, droughts, and rainfall fluctuations (IPCC, 2007). The vulnerability of fishing leads to the problems and struggles encountered by the fishermen. Bantayan Island is an area that is vulnerable to various calamities as waters surround it. Native residents in fishing villages find it hard to respond to these challenges, primarily affecting their means of living. KI- 1, 2 & 3 say,

*“Makaapekto gyud kaayo kalamidad ug dako bilabi na kung kusog kaayo ang unos. Mao bitaw pag 2013, nihunong na jud ko ug pagpangisda kay lisod gyud kaayo. Di mana malikayan ang mga kalisod no pareha ana kung naay bagyo. Ang amo lang gyud kay makanli lang mi balik sa among pamilya kay mao na importante. Ang bati na panahon ra jud ang pinakadakong problema namo sa pagpangisda.” (Natural calamities affected much more especially when there are storms. To wit in 2013, fishing was stopped because it was very difficult. Difficult times cannot be avoided, especially*

*where there is a typhoon. What we are after is that we can reach home to our families, which is the most important. The bad weather condition becomes our greatest challenge in our fishing expedition.)*

Bad weather conditions and other natural disasters are common factors that affect fishermen's means of living. It does not only affect and destroy their fishing equipment; but as well as their primary means of living. With it, some are forced to leave fishing and find other jobs that are less dangerous. Aside from this, there are also times that they encounter low tides, which cause them to have a hard time catching fish and prompt them to find deeper areas of the sea. Life of a fisherman is a game of survival: facing and overcoming challenges in exchange give them the ability to provide the necessities they need.

### **Theme 7: Success is attained through Resilient Fishing**

Fishing is perceived as one of the most precarious livelihoods, primarily in rural areas. Fishing is a livelihood wherein threats and dangers are inevitable considering various factors like geographical settings and climatic changes. However, fishing also contributes to the development of one's living. Fishermen, capable of catching abundant fish and later this catch, are supplying it to the markets; they earn income as a fruit of their resiliency. KIs – 2 and 3 say,

*"Nakapahuman ko sa akong lima ka anak sa kolehiyo sa pagpanagat. Nakapaeskwela ko sa akong mga anak sa hayskul." (In fishing, I was able to send my five children to college and made them graduate. I sent my children to high school.)*

Despite all the challenges and struggles, the fishermen have faced, they still achieve the fruits of their labor. With fishing, they sent their children to school and earned professional degrees. The three research participants highlighted that fishing helps them sustain their family's daily needs.

### **The Curriculum Implications**

The need for culture-based education in 21<sup>st</sup>-century teaching and learning is apt as one of the vital indicators for national identity. The waning trend of using *bobo* traps becomes a sad reality that needs to be preserved in different ways. One of its possible responses is to contextualize this in other aspects of human life. Hence, using the *bobo* trap in fishing can be a pragmatic solution to contextualize and localize instructional delivery in primary and tertiary education to achieve the expected learning outcomes in an Outcomes-Based Education (OBE) approach to education in the Philippines. The CRT findings of Jacobs and Haberin (2022) offer a pragmatic implication in designing a framework for CRT teachers, addressing their roles and teaching experiences internationally, i.e., to create a well-balanced perspective and implementation of CRT. Like CRT as a research-based teaching pedagogy (Tiyago & Verma, 2022), the BMCT follows a similar process. Research is conducted on the fishing culture before its design and implementation.

### **How Educators Use the BMCT?**

Educators worldwide can access and use BMCT in their teaching by looking into the contents in Table 1. In the BMCT, the steps in using the *Bobo* trap are realigned with the 5E's of Constructivist Teaching [Engagement, Exploration, Explanation, Elaboration, and Evaluation] to contextualize the local culture of the island of

Bantayan's fishing community, to be dubbed as the 5Ps of BMCT [Pagpaon, Pagpas-ong, Paghaw-as, Paghabwa, and Pagbaligya]. With BMCT as a new paradigm, Jacobs & Haberlin (2022) found that in CRT, a relationship between culture and the learning environment becomes a pivotal reference in the instructional process. This finding is an enthusiastic response affirming the apt utilization of the BMCT. In light of the theory of scaffolding by Lev Vygotsky and Jerome Bruner, the BMCT hinges on cultural framing as its core. Likewise, Tiyaqi & Verma (2022) also recognize the use of cultural scaffolding in CRT's implementation. In BMCT, educators may use cultural artifacts as a scaffold for learning, exemplified in the steps of *bobo* fishing found in Table 1.

**Table 1.** *The 5Ps in the BOBO Model of Constructivist Teaching in the Philippines*

Steps in <i>Bobo</i> Fishing	Definition	Instructional Implications	Sample Contextual Questions and Learning Tasks
1. Pagpaon	<i>Pagpaon (Baiting)</i> entices fish to enter the trap using bait.	<i>Engagement</i> is integral to constructivist teaching to enhance learners' interest in the lesson.	How do you imagine if you were a fish trapped in a fishnet? Engage in a Travelogue. Let the learners share their feelings and opinions.
2. Pagpas-ong	<i>Pagpas-ong (Fish Trapping)</i> is trapping and enclosing the catch in fish pots with A specific time element.	<i>Exploration</i> keeps the learners exploring the problem, like participating in a brainstorming or buzz session.	Will you find a way to escape it or accept the fate that you were trapped in? What right decision will you make? Defend it using a Spider Web
3. Paghaw-as	<i>Paghaw-as (Hauling)</i> is pulling out the fish pots off the water to see what has been caught.	<i>Explanation</i> reveals the learners' solution/s to the entire class to check their tacit understanding of the problem.	If you want to find a way out, what are your solutions? Describe your solutions in step-by-step order. Explore in a Brainstorming
4. Paghabwa	<i>Paghabwa (Offloading)</i> is retrieving the gathered fish to evaluate one's success in fishing by determining how much can be sold or consumed.	<i>Elaboration</i> reflects on the learners' decision on the pros and cons of the solutions to the problem/s.	Granting your solution works, how do you manage to sustain it if other factors may affect it? Present it on a talk show
5. Pagbaligya	<i>Pagbaligya (Selling)</i> is trading the fish caught in the neighborhood or market to earn money.	<i>Evaluation</i> checks the learners' authentic understanding of the lesson by contextualizing it through cause-and-effect benefit/s.	How will you promote your solution/s to others? Create an advertisement.

At the outset, Table 1 showed the capsulized picture of the Bobo Model of Constructivist Teaching extrapolated from the in-depth study of the steps of the fisherman's Bobo traps they use in daily fishing. This model highlights the localized and contextualized sensibility to innovate teaching strategies amid strategies introduced and written by Western scholars and writers. The innovation of the BMCT is a gesture of the Philippines' assertiveness in responding to the challenges of globalization.

#### 4. Conclusion and Recommendation

The use of modern fishing equipment has challenged the centuries-old traditional fishing beliefs and rituals on Bantayan Island. Deep-sea fishing methods of small fishermen have remained conventional, but some of their equipment undergo technological modification. The realization of success in fishing overcomes the challenges of using interventions. This realization affirmed the socio-cultural theory of Lev Vygotsky that the dimension of consciousness of an individual is crucial in time and fact. Fishing does not only benefit the fishermen's daily needs, but it provides a significant benefit to the education of their children. The century's practice of *Bobo* in fishing encapsulates a fertile ground for innovation to improve constructivist teaching in a localized classroom experience – the BMCT way. This BMCT hinges on Jerome Bruner's theory of scaffolding as the 'centerpiece' in the instructional process, where learners use their consciousness to engage in the learning process and make meanings. With the new localized *Bobo* Model of Constructivist Teaching or BMCT, the following recommendations will be sought: (1) conduct orientation and seminar on the broader utilization of the strategy; (2) study the efficacy of the strategy for a duration of four quarters in the laboratory school for basic education; and (3) disseminate to the fisher folks of Bantayan about the relevance Bobo fishing trap about classroom use.

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